# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/785,263 | 02/24/2004 | Kosuke Yamaguchi | 09812.0410 | 8885 |

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| EXAMINER |
|---|
| LAY, MICHELLE K |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2672 | |

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
|---|---|---|
| ***Office Action Summary*** | 10/785,263 | YAMAGUCHI ET AL. |
| | Examiner | Art Unit | |
| | Michelle K. Lay | 2672 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All  b)☐ Some *  c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

# DETAILED ACTION

## *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim **7** recites the limitation "object rotating means" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is unclear how the object rotating means corresponds to inconjunction with the object moving means. There is insufficient antecedent basis for this limitation in the claim. It is assumed by the examiner that "object rotating means" should be "object moving means" and is rejected as such.

## *Claim Objections*

Claims **17-19** are objected to because of the following informalities: Claims **17-19** claims "A computer program allowing a computer to function as ...". The examiner suggests the preamble reads "A computer readable media comprising a computer program allowing a computer to function as ...". Appropriate correction is required.

## *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1**, **2**, **4**, **6**, **9**, **10**, **12**, **14**, are rejected under 35 U.S.C. 102(b) as being

anticipated by Ono et al. (US Patent No. 5,588,097).

Ono et al. teaches rotating an image with three degrees of freedom by pen

manipulation.


In regards to claim **1**, Ono et al. teaches:

a) *a display means for displaying a three-dimensional object on the*

   *screen of a display unit* [Fig. 1 (6, 9); col. 2, line 33 – col. 3, line 27];

b) *a coordinate detecting means for detecting a coordinate defined on the*

   *display screen by a user's touch* [Fig. 1 (5, 6, 7); positional information

   indicated by user via a pen (7) on a display screen (6) of the tablet (5), is

   input to the image generating section (2); col. 2, line 33 – col. 3, lines 27; col.

   3, lines 45-64];

c) *a determination means for determining an axis and direction of rotation*

   *for the three-dimensional object in a predetermined cycle on the basis*

   *of the coordinate detected by the coordinate detecting means* [Fig. 1b

   (18); axial rotation angle calculation circuit (18) performs calculations to

   determine the three degrees of freedom to be used for controlling the

   posture of object in three-dimensional space; col. 3, lines 1-5]; *and*

d) *an object rotating means for rotating the three-dimensional object on*

   *the basis of the result of determination supplied from the*

   *determination means* [Fig. 1 (3); col. 2, line 33 – col. 3, line 27].

In regards to claim **2**, Ono et al. teaches:

a) *wherein the determination means determines the axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detecting means and a central coordinate on the display screen.*

- The data is inputted by the user for the rotational operation via input device shown in Fig. 1 (5, 6, 7). As shown in Figs 4a-4d, the polar coordinates are specified by moving a point P (*coordinate detected by the coordinate detecting means*) on the spherical surface (22) from P0 to P1 to rotate the object (21). The rotation about an axis is defined by the center O (*central coordinate*) of spherical surface (22) and the point P0 or P1 [col. 3, lines 45-65].

- As shown in Fig. 4c, a rotation angle $\alpha$ about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47].

In regards to claim **4**, Ono et al. teaches:

a) ***wherein the determination means determines an axis and direction of rotation for the three-dimensional object on the basis of a positional relation between the coordinate detected by the coordinate detecting means and the three-dimensional object on the display screen.***

- The data is inputted by the user for the rotational operation via input device shown in Fig. 1 (5, 6, 7). As shown in Figs 4a-4d, the polar coordinates are specified by moving a point P (***coordinate detected by the coordinate detecting means***) on the spherical surface (22) from P0 to P1 to rotate the object (21). The rotation about an axis is defined by the center O of spherical surface (22) and the point P0 or P1 [col. 3, lines 45-65].

- As shown in Fig. 4c, a rotation angle $\alpha$ about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47].

- Since points P0 and P1 can be specified by the simple operation of freely moving the pen (7) on the surface (22), the user can rotate the object (21) to an arbitrary orientation as desired [col. 5, lines 19-20]. Thus, the user can select coordinates in reference to the three-dimensional object.

In regards to claim **6**, Ono et al teaches *a three-dimensional object manipulating apparatus, comprising:*

    a) *a display means for displaying a three-dimensional object on the screen of a display unit* [Fig. 1 (6, 9); col. 2, line 33 – col. 3, line 27];

    b) *a coordinate detecting means for detecting a coordinate defined on the display screen by a user's touch* [Fig. 1 (5, 6, 7); positional information indicated by user via a pen (7) on a display screen (6) of the tablet (5), is input to the image generating section (2); col. 2, line 33 – col. 3, lines 27; col. 3, lines 45-64];

    c) *a determination means for determining a moving direction for the three-dimensional object in a predetermined cycle on the basis of the coordinate detected by the coordinate detecting means and barycentric coordinate of the three-dimensional object on the display screen* [Fig. 1b (18); axial rotation angle calculation circuit (18) performs calculations to determine the three degrees of freedom to be used for controlling the posture of object in three-dimensional space; col. 3, lines 1-5]

- The data is inputted by the user for the rotational operation via input device shown in Fig. 1 (5, 6, 7). As shown in Figs 4a-4d, the polar coordinates are specified by moving a point P (*coordinate detected by the coordinate detecting means*) on the spherical surface (22) from P0 to P1 to rotate the object (21). The rotation about an axis is defined by

the center O of spherical surface (22) and the point P0 or P1 [col. 3, lines 45-65].

- As shown in Fig. 4c, a rotation angle α about the axis (O-P1) is determined via points P2 and P3. Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47]. The direction of rotation corresponds to said *moving direction for the three-dimension object*, and

d) *an object moving means for moving the three-dimensional object on the basis of the result of determination supplied from the determination means* [Fig. 1 (3); col. 2, line 33 – col. 3, line 27; where *moving the three-dimensional object* corresponds to rotating a object in three dimensions].

Claim **9** is rejected on the same basis and rationale as claim 1.

Claim **10** is rejected on the same basis and rationale as claims 9 and 2.

Claim **12** is rejected on the same basis and rationale as claims 9 and 4.

Claim **14** is rejected on the same basis and rationale as claim 6.

Claim **8**, **16**, **19** are rejected under 35 U.S.C. 102(b) as being anticipated by

Chen et al. (US Patent No. 5,588,098).

The invention of Chen et al. discloses a manipulation of a computer displayed

object representing in three-dimensional form.


In regards to claim **8**, Chen et al. teaches *a three-dimensional object manipulating*

*apparatus, comprising:*

    a) *a display means for displaying a three-dimensional object on the*

        *screen of a display unit* [Fig. 1 (19)]*;*

    b) *a coordinate detecting means for detecting a coordinate defined on the*

        *display screen by a user's touch* [Fig. 1 (15)]*;*

    c) *a determination means for determining whether the three-dimensional*

        *object is to be scaled up or down in predetermined cycle on the basis*

        *of the coordinate detected by the coordinate detecting means* [Fig. 11,

        enlarging arrow indicating that dimensions are to be affected in the case of a

        scaling active zone; col. 6, lines 30-39; col. 7, lines 7-21]*; and*

    d) *an object scale-up/-down means for scaling up or down the three-*

        *dimensional object on the basis of the result of determination supplied*

        *from the determination means* [Fig. 8, col. 17, line 31 – col. 18, lines 26].


Claim **16** is rejected on the same basis and rationale of claim 8.

Claim **19** is rejected on the same basis and rationale of claim 8.  Furthermore, Chen et

al. teaches a computer system (10) as shown in Fig. 1.  The system includes a

CPU/memory unit (11) that comprises a microprocessor, related logic circuitry, and

memory circuits.  A keyboard (13) provides inputs to the CPU/memory unit (11), as well

as the 2-D input controller (15).  Disk drives (17) are used for mass storage of programs

and data.  Display output is provided by a video display (19).

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims **3, 5, 7, 11, 13, 15, 17** and **18** are rejected under 35 U.S.C. 103(a) as

being unpatentable over Ono et al. (US Patent No. 5,588,097).

Ono et al. teaches the limitations of claims **3, 5, 7, 11, 13, 15, 17** and **18** with the

exception of disclosing determining rotation speed (**3, 5, 7, 11, 13, 15**) and a computer

readable media (**17** and **18**).

In regards to claims **3, 5, 7, 11, 13,** and **15**, the rationale of claims 1, 6, 9, and 15

are incorporated herein.  Ono et al. teaches system that rotates a graphical image.  The

user defines an axis of rotation as well as an angle of rotation.  Applicant defines the

angle of rotation as the speed of rotation [refer to [0091]].  As shown in Fig. 4c of Ono et

al., a rotation angle α about the axis (O-P1) is determined via points P2 and P3.

Additionally, the user moves the pen (7) from the start point P2 in the direction of the desired rotation and then specifies another point P3 on the spherical surface (22), so that the angle $P_2P_1P_3$ defines a rotation angle about the axis OP1 [col. 3, lines 45-65; col. 5, lines 30-47]. Therefore, from the definition within the disclosure of the current application, Ono et al. teaches the speed of rotation.

Ono et al. teaches the limitations of claims **17** and **18** with the exception of disclosing a computer readable media. However, referring to Fig. 1b, it would have been obvious for instructions to reside in the memory device (12) in order to implement the method of Ono et al. Furthermore, claim **17** is rejected on the same basis and rationale of claim 1 and claim **18** is rejected on the same basis and rationale as claim 6.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Publication No. 2001/0017624 A1 to Noettling

US Patent No. 5,557,714 to Lines et al.

US Patent No. 5,428,721 to Sato et al.

US Publication No. 2001/0055031 A1 to Andersson


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle K. Lay whose telephone number is (571) 272-7661. The examiner can normally be reached on Monday - Friday, 7:00am - 4:30pm.
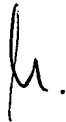
If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael Razavi can be reached on (571) 272-7664. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Michelle K. Lay
Patent Examiner
Art Unit 2672

10.31.2005 mkl

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